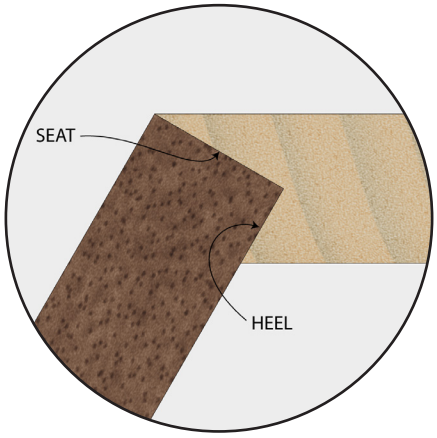
YONICO
PROFESSIONAL ROUTER BITS

Step-by-Step Instructions
Yonico Item #15137

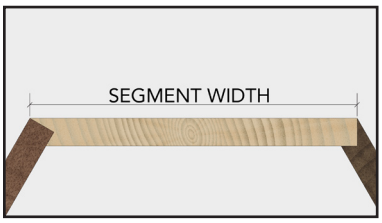
The 15137 Bird's Mouth Glue Joint Bit is designed to cut glue joints for 16-sided objects with one simple setup on the router table.

Step 1: Determine stock thickness and diameter of finished object.

Decide on the finished diameter of your project and select stock that is no thicker than the router bit's seat-cutting edge.



Step 2: Find the segment width.

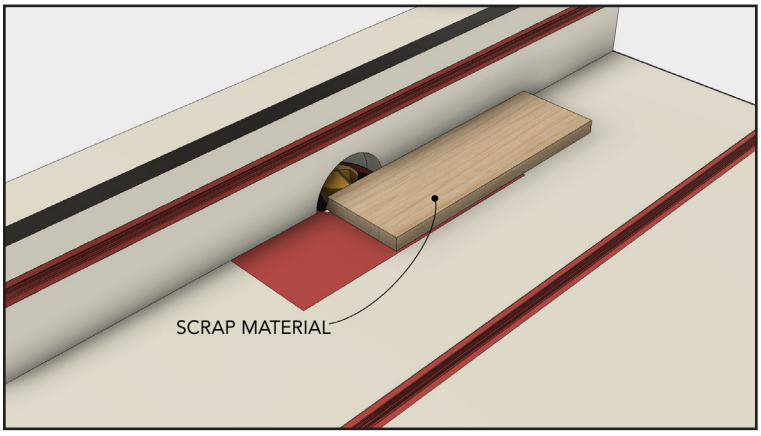


To calculate the segment width, divide the object diameter by 5. For example, segment width for a 12" diameter object would be 2.4".

Step 3. Set bit height and fence depth.

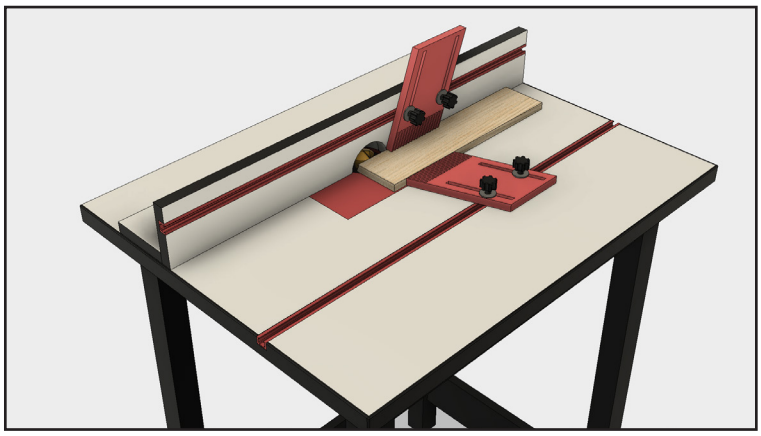
Find the appropriate bit height by multiplying the stock thickness by 0.924. If your stock is 0.5" thick, the bit height should be .462". Multiply the stock thickness by .383 for the fence depth. This formula would give you a fence depth of .192" for .5" stock.

Step 4: Make a test cut in scrap material.



Run a piece of scrap material through the router and test the joint's fit. If the bit height and fence depth are correct, you're ready to route.

Step 5: Route one edge of each segment.



Run each segment through the router table face down. For the best results, use feather boards to keep your work pressed tightly against the table and fence. Feed slowly, and use a push stick to keep your hands at a safe distance from the bit.

Important Formulas

To calculate segment width:

Outside diameter / 5

Bit height:

Stock thickness x 0.924

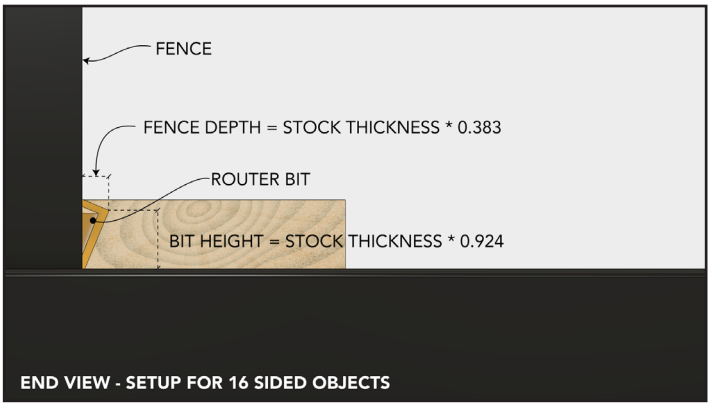
Fence depth...

Stock thickness x 0.383

Face up/face down guidelines:

Route all segments with outside face down

Bit & Fence Setup Detail

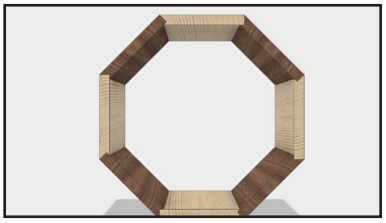


YONICO
PROFESSIONAL ROUTER BITS

Step-by-Step Instructions
Yonico Item #15138

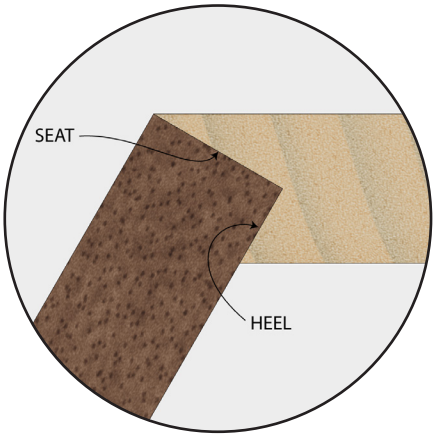
The 15138 Bird's Mouth Glue Joint Bit will cut clean joints for 8-sided objects.

Step 1: Determine stock thickness and diameter of finished object.

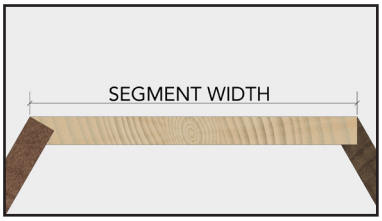


Choose the diameter and stock thickness for your finished object.

A bird's mouth joint has two parts: the seat and heel. You can use any material thickness that is less than the length of the router bit's seat-cutting edge.



Step 2: Find the segment width.

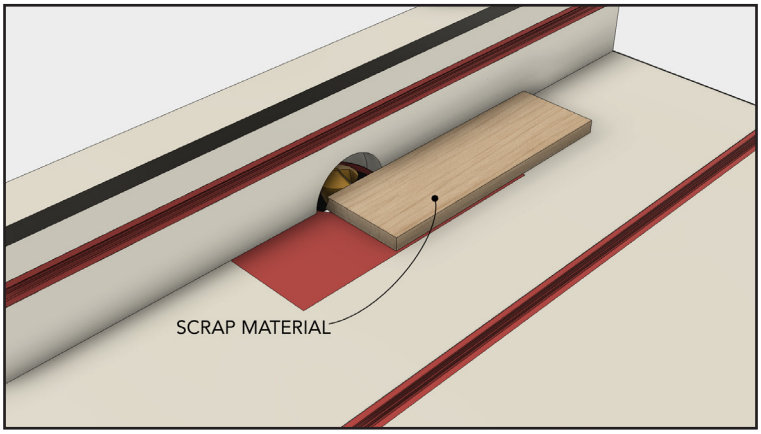


Segment width should be equal to the object's diameter divided by 2.4. For a 12" diameter, make all segments 5" wide.

Step 3. Set bit height and fence depth.

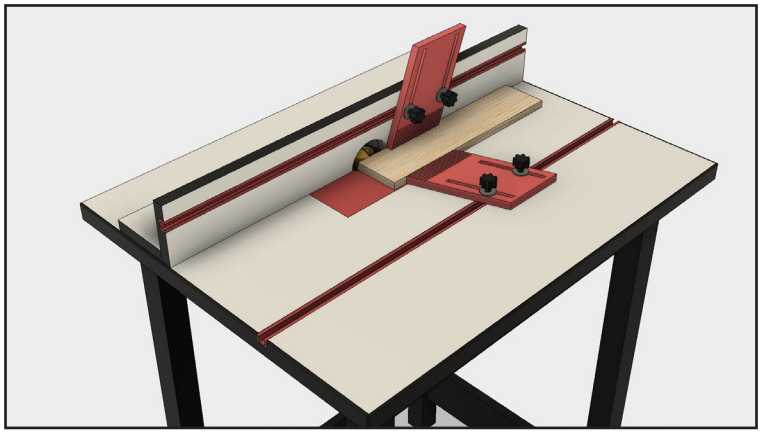
The bit height should be equal to the stock thickness multiplied by .293. This would give you .147" for .5" stock. To set the fence depth, multiply the stock thickness by .707. With .5" stock, the fence depth should be .354".

Step 4: Make a test cut in scrap material.



Before routing the segments, run a piece of scrap material through the router. Test the joint's fit.

Step 5: Route one edge of each segment.



Now you can run your segments face up through the router table. Use feather boards to keep the stock pressed flat against the table and fence. Feed the parts slowly and use a push stick to keep your hands at a safe distance from the bit.

Important Formulas

To calculate segment width:

Outside diameter / 2.4

Bit height:

Stock thickness x 0.293

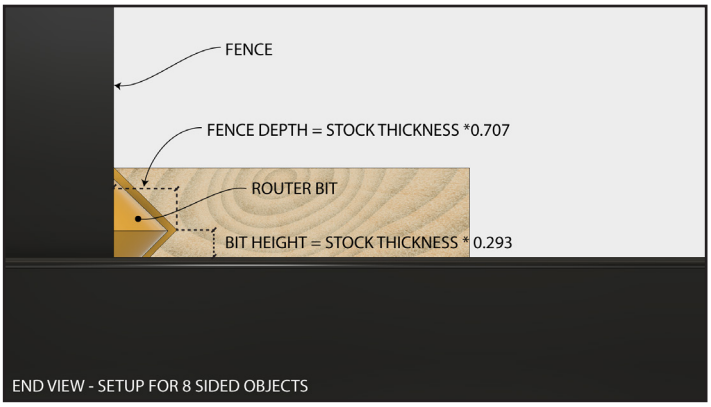
Fence depth...

Stock thickness x 0.707

Face up/face down guidelines:

Route all segments with outside face up

Bit & Fence Setup Detail



YONICO
PROFESSIONAL ROUTER BITS

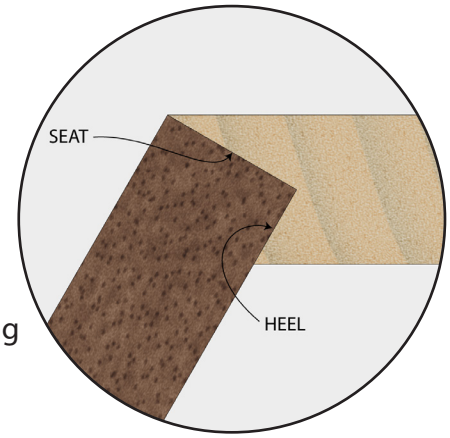
Step-by-Step Instructions
Yonico Item #15139

With the 15139 Bird's Mouth Glue Joint Router Bit, you can make accurate 6 and 12-sided shapes for columns, posts or legs. You'll need a few pieces of information to get started. Follow these instructions to make 6-sided objects.

Step 1: Determine diameter of finished object and stock thickness.

First, you should know the desired diameter of your finished piece.

Now you can select a stock thickness. A bird's mouth joint has two parts: the seat and heel. Your stock thickness should be no greater than the router bit's seat-cutting edge.



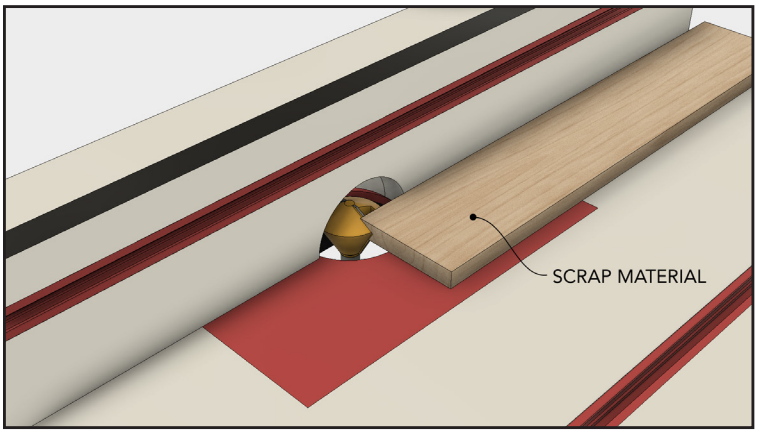
Step 2: Find the segment width.

Once you have the above information, you can calculate the width of each segment. Let's assume you want to make a 6-sided, 10" diameter project. According to the formula for a 6-sided piece (object diameter divided by 1.7), each segment should be 5.88" wide. Cut your segments to this length before moving to the router table.

Step 3. Set bit height and fence depth.

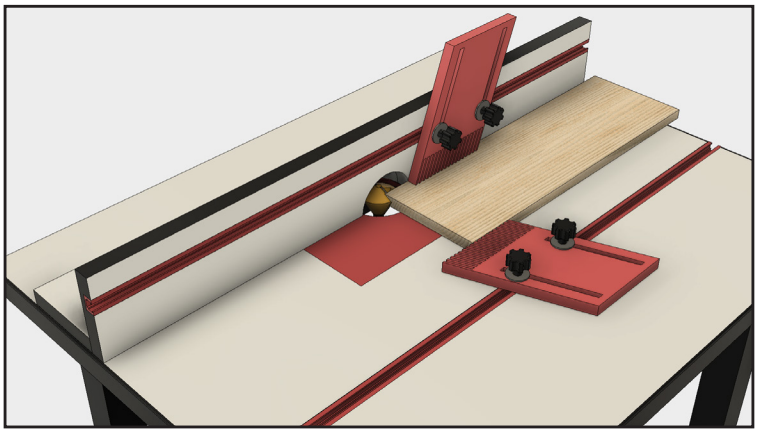
Careful setup at the router table is the key to producing accurate bird's mouth joints. For a 10" diameter, 6-sided project, the bit height should be equal to the stock thickness multiplied by 0.5. If each segment is .5" thick, the bit height should be .25". The fence depth should be equal to the stock thickness multiplied by .866. For .5" stock, your fence should be set to .433".

Step 4: Make a test cut in scrap material.



When your bit height and fence are properly adjusted, run a test cut on one edge of a piece of scrap the same thickness as your stock. Be careful to run the piece face up or face down according to the table below. Test the joint's fit.

Step 5: Route one edge of each segment.



For the cleanest cuts and crisp edges, use a feather board to hold the stock to the router table's surface, and another to press the work into the fence. Feed segments face up for 6-sided objects at a slow and steady rate. A push stick will provide maximum control and will keep your hands at a safe distance from the router bit.

Tip: Don't cut short segments to length before routing. Instead, route an oversized piece and cut several short segments from it.

Important Formulas

To calculate segment width:

Outside diameter / 1.7

Bit height:

Stock thickness x 0.5

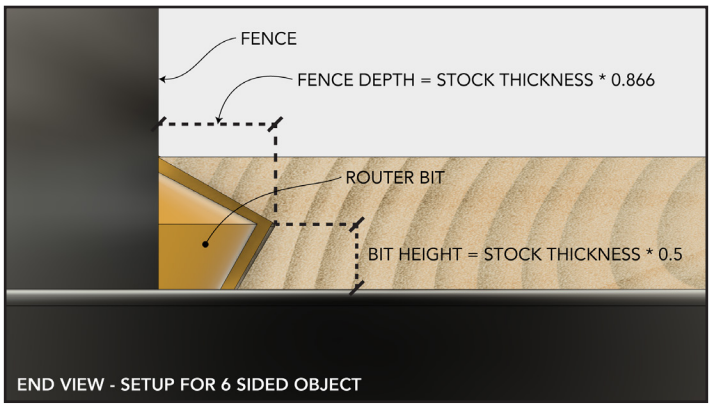
Fence depth...

Stock thickness x 0.866

Face up/face down guidelines:

Outside face up

Bit & Fence Setup Detail



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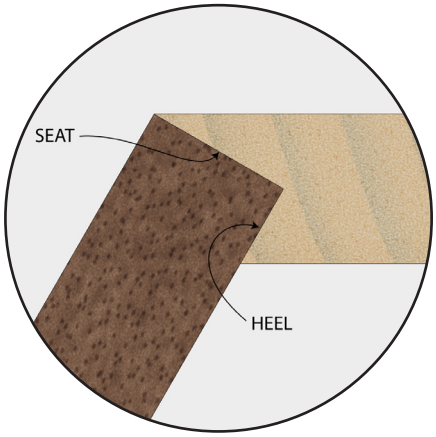
Step-by-Step Instructions
Yonico Item #15139

With the 15139 Bird's Mouth Glue Joint Router Bit, you can make accurate 6 and 12-sided shapes for columns, posts or legs. You'll need a few pieces of information to get started. Follow these instructions to make 12-sided objects.

Step 1: Determine diameter of finished object and stock thickness.

First, you should know the desired diameter of your finished piece.

Now you can select a stock thickness. A bird's mouth joint has two parts: the seat and heel. Your stock thickness should be no greater than the router bit's seat-cutting edge.



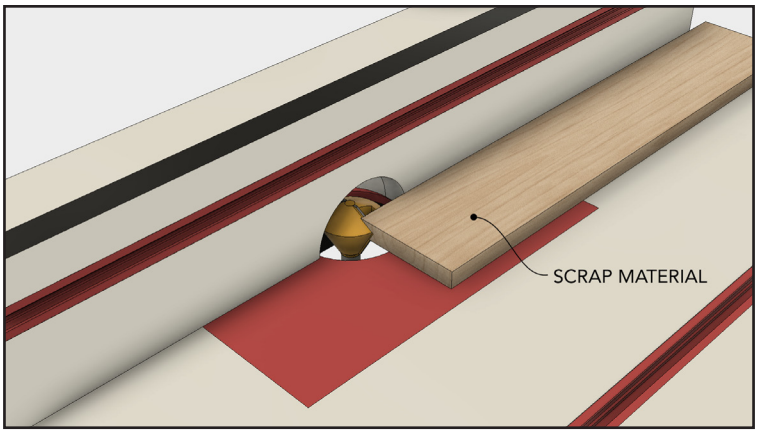
Step 2: Find the segment width.

To calculate the segment width for a 12-sided project, divide the finished diameter by 3.7. For a 16" diameter object, your segments should be 4.32" wide.

Step 3. Set bit height and fence depth.

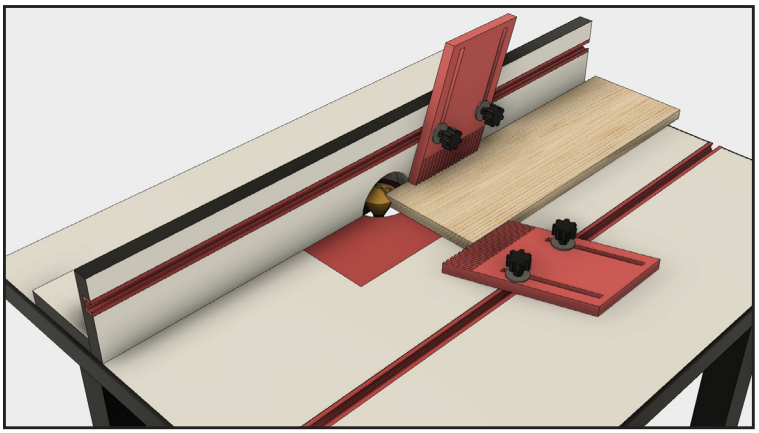
The bit height should be equal to the stock thickness multiplied by .866, and the fence depth should be set to the stock thickness multiplied by .5".

Step 4: Make a test cut in scrap material.



When your bit height and fence are properly adjusted, run a test cut on one edge of a piece of scrap the same thickness as your stock. Be careful to run the piece face up or face down according to the table below. Test the joint's fit.

Step 5: Route one edge of each segment.



For the cleanest cuts and crisp edges, use a feather board to hold the stock to the router table's surface, and another to press the work into the fence. Feed segments face down for 12-sided objects at a slow and steady rate. A push stick will provide maximum control and will keep your hands at a safe distance from the router bit.

Tip: Don't cut short segments to length before routing. Instead, route an oversized piece and cut several short segments from it.

Important Formulas

To calculate segment width:

Outside diameter / 3.7

Bit height:

Stock thickness x 0.866

Fence depth...

Stock thickness x 0.5

Face up/face down guidelines:

Outside face down

Bit & Fence Setup Detail